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## Journal of the Society of Arts.

FRIDAY, APRIL 3, 1857.

### NOTICE TO CANDIDATES.

Persons who intend to offer themselves as Candidates at the Society's Examinations in June next, in London and at Huddersfield, are desired to take notice that no one will be admitted to the Examinations who shall not have sent in his "Return paper" to the Secretary of the Society of Arts, before Monday, the 20th of April next.

Forms of the "Return paper" may be had on application to the Secretary of the Society of Arts.

### EXHIBITION OF INVENTIONS.

The Society's Ninth Annual Exhibition of Inventions was opened on Monday, the 23rd ult. The Exhibition will be open every day till the 23rd of May, from 10 a.m. to 4 p.m., and is free to the members and their friends. Members, by tickets or by written order bearing their signature, may admit any number of friends.

### NOTICE TO INSTITUTIONS.

James Patrick Muirhead, Esq., F.R.S.E., has presented to the Society of Arts, for distribution amongst the Institutions in Union, 27 copies of "Correspondence of the late James Watt, on his Discovery of the Theory of the Composition of Water," and 186 copies of "The Historical Eloge of James Watt," by M. Arago.

Those Institutions which desire to have copies of these works, are requested to make early application to the Secretary of the Society of Arts.

### SPEECHES AND ADDRESSES OF H.R.H. PRINCE ALBERT, PRESIDENT OF THE SOCIETY OF ARTS.

At the annual dinner of the Society for the Encouragement of Arts, Manufactures, and Commerce, in the Crystal Palace, on the 24th of June, 1856, Lord Ashburton, Vice President of the Society, in his address from the chair, observed:—"To induce the tired mechanic to study during his hours of rest, he must have some inducement beyond that of acquiring knowledge for its own sake; he must be paid for it in wages or in consideration, and that inducement he cannot hope for from ignorant employers. Prince Albert has felt this difficulty; a difficulty not within the compass of this Society to remove: and he has brought up succour to us from other quarters.

He assigned to science and high art its due place in the hierarchy of society; he has encouraged our scientific and artistic institutions, but above all he has adopted that course which among Englishmen is of most avail,—he has attended our public meetings, and has in his own person appealed to us to reform ourselves. Those appeals at the time produced their effect, and would continue to work upon the public mind, if this Society would in its own interest, and in the interest of the cause it espouses, print and circulate Prince Albert's addresses for our use."

At a meeting of the Council of the Society of Arts held on the 23rd of July, 1856, the foregoing suggestion was taken into consideration, when the following minute was passed:—

"That Lord Ashburton's suggestion, to collect and publish the addresses, speeches, and letters of H.R.H. the President of the Society, having been considered, it was resolved:—That a collection be published, not at the risk of the Society, but by subscription among the members, the Institutions in Union, and the public at large, as being the best means of showing the public sense of the efforts made by his Royal Highness to promote social progress and the Encouragement of Arts, Manufactures, and Commerce, the chartered objects of the Society

"That two editions of the collection be published under the sanction of the Society, the one a cheap edition for wide distribution, and the other a library edition.

"That members and others wishing to become subscribers be requested to transmit to the Secretary a statement of the number of copies they subscribe for, with the amount of subscriptions."

It is proposed to publish the Library Edition at half-a-guinea, and the cheap edition at three-pence each, or one pound per hundred.

Subscriptions to promote the above object will be received by the Secretary.

### SEVENTEENTH ORDINARY MEETING.

WEDNESDAY, APRIL 1, 1857.

The Seventeenth Ordinary Meeting of the One Hundred and Third Session was held on Wednesday, the 1st inst., the Right Honourable the Earl of Shaftesbury in the chair.

The following Candidates were balloted for, and duly elected members of the Society:—

Burbridge, George Frederick	Watney, John
Leather, J. T.	Worms, Anthony
Magnay, Frederick Arthur	Worms, George
Merrett, William Gwillim	Worms, Henry
Morton, John Lockhart	Young, James

AS A CORRESPONDING MEMBER.

Cramp, Rev. John M., D.D.

The Paper read was:—

ON THE TRADE, HABITS, AND EDUCATION  
OF THE STREET HAWKERS OF LONDON.

By THE REV. W. ROGERS.

I have considerable diffidence in coming forward this evening to read a paper before this Society, especially at this time, and under such a presidency. This Society calls itself the Society of Arts, but I am not famous in any of the branches, either of art or science, nor does the subject which has been entrusted to me admit that I should offer to you any new development in art or science, unless it be a lecture on the art of garotting and a discussion on the practical science of pocket-picking; doubtless, both of these are capable of great development, and new theories are being constantly propounded, which active agents are always at hand to carry out into practice, but as I have never sat at the feet of Professor Fagin, nor received instruction from the Artful Dodger, and as it has rather been my study to introduce, through the means of education, a moral anti-garotte collar, and a new pocket guard by endeavouring to restrain the itching finger, I am afraid I have nothing new in those arts and sciences to which the class I am invited to describe are addicted, to bring before your Society. The time, too, perhaps, is not very opportune, for the subject has been already, I am afraid, thoroughly exhausted by the gentleman who wrote upon it in the *Morning Chronicle*, and who described the habits and trade of these people with so much clearness and accuracy, having previously made himself intimately acquainted with their life and manners. To follow in the wake of such a writer is no easy task; however, as my knowledge of these gentry is not general, but confined to a particular district, and as I do not pretend to branch out beyond my own sphere, I may, perhaps, be able to touch upon some points of character peculiar to the inhabitants of my locality which may possibly have escaped his observation. But my diffidence is considerably increased when I consider who the nobleman is who has kindly consented to preside on this occasion, one who has made it his study to inquire into the wants of the lowest classes of the people, and who has devoted himself with so much zeal and success to institute and carry out well-devised schemes for their alleviation; for I feel that I can describe nothing new to him in delineating the character of these classes, and can originate no plan for their improvement which has not already received his serious consideration.

However, as you have paid me the compliment of asking me to read the paper, I will do my best, and crave your forbearance if I do not make the subject as interesting as I know it is capable of being made.

But the question may be asked, Why have you been selected to read this paper? What have you to do with these people? Now, I do not wish to take to myself any credit, and I know great credit is due to those who, actuated by the highest principles of humanity and love, plunge into the lowest depths of society, prepared to drag forth from the dens of infamy and degradation the outcast and abandoned. Circumstances have led me to form an acquaintance with these people, and it has fallen to my lot, in the course of my professional duties, to get some insight into the trade, habits, and education of street hawkers.

I served as curate for two years in a metropolitan parish, where, owing to the facility of obtaining greens, and other stuff, from the market gardens, many of the people were employed in this business. To such an extent was this the recognised trade of the natives, that whenever any man wanted to raise a sum of money from the charitable, of which there were many in the parish, it was the custom to go round with a petition, stating that, owing to the death of his donkey, he was quite thrown out of employ, and consequently starving. Had all these petitions been true, instead of a dead donkey being a rarity and a proverb, the streets would have

been as thickly strewn with carcasses of this useful animal as the gardens were planted with cabbages.

Since I came to London it has been my duty to minister in a district, the population of which I have described in a letter, addressed to Lord John Russell, a year or two ago, as peculiar—peculiar, not only as numbering in their ranks a much larger per centage of bad and profligate people than is to be found in other districts; the very nature of the courts and houses breeds this kind of gentry, rendering the *locale* a complete refuge for the destitute, so that, whenever a gang of thieves, fortune-tellers, or others of this class, are routed out from one neighbourhood, they are sure to resort thither, well-knowing that, if the police, stirred up by the inhabitants, will not allow them to remain in other places, there, at all events, they will be undisturbed, and may carry on their nefarious practices in peace. But they are peculiar in another way; they are not like the inhabitants of Bethnal-green, or St. George's in the East, who are employed in some particular business, either silk-weaving or working in the docks, and who, though poor, are at the same time industrious, but they are all ragamuffins. This is the peculiarity of this district. It is a district of ragamuffins. I do not mean to say that there are not some industrious poor and respectable persons living there; I know that there are, and that they deplore equally with myself the state of things around them, but if you were required to describe this district, you would not describe it as agricultural, or manufacturing, or mining, but you would describe it as a costermongering district; it is, in fact, costermongria. Having been called then from the market gardens to such a field as this—having served as curate for two years among the purveyors of greens, and as what is called perpetual curate among their brethren in the dried fish and winkle line for twelve years, I think that, without taking great credit to myself, I may claim some acquaintance with the habits of these people. The paper describes them as street hawkers, but as the word is to be found in Johnson's Dictionary, I do not see why we should mince the matter, and proceed at once to call them by their right name—costermongers.

Johnson defines a costermonger as a dealer in apples—a fruiterer—and he quotes a passage from Burton on Melancholy. "Many country vicars are driven to shifts, and if our greedy patrons hold us to such conditions, they will make us turn costard-mongers, graziers, or sell ale." Had Burton lived to see the days of extramural interments, and the solemnization of marriages before the Registrar, he would have included the town vicars among those who are "driven to shifts," though we hope that the patrons of the present day are not quite so greedy as to compel us to change our cassocks into blue aprons, or to walk about for six days in the week with baskets of apples on our heads.

A costermonger then, is, properly speaking, one who sells apples, but the name is not confined exclusively to the dealers in this kind of merchandise alone, but it is applied to all those who, as it is technically termed, get their living in the streets—who hawk about fish, vegetables, &c. The most aristocratic possess a cart and donkey, the next class a truck or barrow, the lowest have their little all contained in a basket. Their earnings are necessarily most precarious. Vendors of watercresses, onions, oranges, apples, and fried fish, generally carry their stock in a basket, and their profits vary from 2d. to 2s. or 3s. per day. Vendors of garden stuff, flowers, fruit, and fresh fish, these go about with a barrow, and their earnings vary from 10s. downwards, and sometimes they are out of pocket owing to their goods being spoilt. Makers and hawkers of children's toys—their profits on their best days are 7s., and sometimes they do not clear 2d. Some of them have to borrow money to buy their stock, and for this they have to pay interest at the rate of 10 per cent. per day. Some of them are not so fortunate as to possess a barrow, and they have to hire one,

which they can do by paying from 3d. or 4d. per job, or 2s. per week. From this it will be seen that their earnings are very precarious, and for the most part they are very poor. At the same time I believe that a man can do very well at this business if he chooses, and if he is prudent he may get a tolerably comfortable livelihood. I was much struck one day visiting in a house in my parish, on ascending the stairs, to hear most unwonted sounds proceeding from a room on the first floor. It was the voice of a man singing cheerfully, as if he was happy. It was no vulgar boisterous mirth, but the cheering notes which proclaim a light heart. So struck was I with these sounds in this dreary quarter, that I made some excuse to go in and see what it was all about. When I entered I found a cheerful looking little man, surrounded by baskets of very excellent fruit, seemingly engaged in arranging them, and getting them into order for going out to sell them in the streets. After the usual salutation, I said, "You seem happy and comfortable." "Yes, I am, sir," he said. "God has been very good to me." "What has happened," I said. "Well, sir," he said, "it has pleased God to take away my old missis, and I have been a happy man ever since. You see all this fruit—this is my stock-in-trade, and I have saved £20, and I intend this summer to buy a cart and pony, and to do the thing in style." "But what," I said, "has this to do with your wife's death." "Everything, sir, for she drank, and was my ruin. A year and a-half ago, sir, I had not a stick of furniture, not even a bed to lie down upon, and now you see what I am. Lord bless you, sir, if I go on as I am, I shall soon be a gentleman." I mention this as illustrating what I said, that a costermonger may do very well indeed in his business if he is only prudent and temperate.

But for the most part their habits are the very opposite of this, and are so from the nature of their business, which consists in hanging about public-houses and markets, wandering over the town, and walking for miles through the streets. Men, women, and children are all engaged in the business, and acquire such wild and Arabian habits from their occupation, that it is almost impossible to get any hold upon them at all. They are, for the most part, recklessly improvident, spending often all their earnings at one sitting in the gin palace, then selling off everything and lying on the floor. Then they will borrow a few shillings at extravagant interest, and begin again. Their homes, too, are most wretched, generally in low courts and alleys, because here there is standing room for their barrows, and consisting of one room in which they live, work, sleep, and manufacture their goods; that is, steam their oranges, boil their winks, fry their fish, smoke their sprats, polish their apples, and make their toys. Men, women, and children, all huddled together in one room; the state of morality can be conceived but not described.

Such being the trade and habits of a costermonger, the question arises how does a man become a costermonger? It surely is not a profession to be coveted or to be taken up from choice. Well, a man becomes a costermonger from necessity and from descent. Some of them are artisans and mechanics, whose trades from some cause or other have failed, or who have been out of employ for some time, and who have taken to this as a means of living. And this opens out the great social question which is forcing itself upon the minds of thoughtful people at this time, as to the condition of the regular industrial employments, and whether or not they are so overstocked with workers that artisans and labourers are forced to take to the street in order to obtain a livelihood. If they are, it appears to me to be a most unhealthy state of things, and one which cannot be contemplated without great anxiety, for it is evident that this kind of business must necessarily be very demoralising, engendering wild and unsettled habits, and bringing those employed in it into constant collision with

the police—a business which, if it increases to any very great extent, must become an intolerable nuisance to the town. I know it is argued that the trades followed by hawkers are usually such as do not seriously interfere with the regular trader, and that it should be the duty of a wise and Christian government rather to encourage the industry of the hawker, than to discourage it by hounding on police officials, to drive the hawkers about, and render the attainment of an honest livelihood as difficult as possible. But, I put it to any one, whether the town would be bearable if this trade were not kept in check by the police? What would be the condition of the streets if these fellows were permitted to obstruct the thoroughfares with their barrows, and to thrust oranges and steel pens into your face just as they pleased, without any restraint? We all know how soon these things get abused. There is the Shoeblack Brigade, a most useful institution, and one which ought to be encouraged, but what has been the consequence of the introduction of the Shoeblack Brigade? Why, that in many parts of London you can hardly pass for fellows soliciting to black your boots, and, though you protest, and point to your boot shining with all the combined polish of Day and Warren, nothing will abash them. And so it would be with the sale of oranges and other articles, if the vendors did not feel that the eye of the police was upon them. I believe the rule is that a certain number of them are allowed to have stalls, if they do not inconvenience the inhabitants before whose doors they sit, and that others are not interfered with if they keep moving, and do not obstruct the thoroughfare. Whether or not it would be advisable to grant licenses to the more respectable, is a question for Sir Richard Mayne to decide; but I am quite sure that no one, whether he be political economist or philanthropist, would endure the state of the town if these people felt that they were not under the surveillance of the police. This is the first class from which costermongria recruits its ranks—artizans and labourers out of employ. Others are of that class who, fancying that the streets of London are paved with gold, have come up from the country fondly imagining that in a short time they would make their fortunes, and either become Lord Mayor or member for the county, and who, when they found that there was a good deal of dirt mingled with the gold, have been thrown friendless upon the town, but having some knowledge from their country education that there is a difference between a carrot and a cabbage, turn their experience to account, and give their neighbours the benefit of it by hawking fruit and vegetables at their doors. Of this class was my little cheerful friend, who bore his widowhood with so much composure, and who really had been a very respectable market gardener in Bedfordshire, and who, from circumstances, had become what he was, and turned his experience to so good an account. But others, and those in large numbers, are born to the business—inheriting it as it were from their parents, and are introduced to it from their very childhood. It is extraordinary how this kind of business is carried on by families. In my letter to Lord John Russell I mention one old lady of my acquaintance, a daughter of Cyclops, who herself had a stall, or, as it is called, *sat* in Whitecross-street. She has had fourteen children, all of whom were in early life brought up to the streets. Some of them died; the rest have large families all engaged in the trade; one daughter had fourteen children; one grand-daughter has already had nine children, though only thirty-one years of age. The three generations have all got their living in the streets. The old block herself has lately been removed to the workhouse, but it will be seen by the above statements that there are plenty of chips to supply her place. Of another family the grand-father was hung at Horsemonger-lane Gaol, the son was a professed body-snatcher, lived with his step-sister, and had five children, all with families, and all costermongers. Another man had seven children; all

have got families, without being married, and all costermongers.

These are a few specimens illustrating the habits of street hawkers.

Let us now pass on to their education. This, of course, is at the lowest standard. Many of those with whom I have come in contact could not read, and some even did not know who Jesus Christ is, nor could repeat the Lord's Prayer. They are for the most part grossly ignorant, and as for a church, of course that is the last kind of place they feel disposed to enter. Their ignorance arises from the nature of their business, and from the neglect to which they have been left. It does not require much book-learning to qualify for the office of calling out "fish" in the streets; and then Sunday, the only day on which it might be hoped that they would get some instruction, is their chief day of traffic, and it cannot be denied that they have been sadly neglected, and moral and religious truths have not been brought home to them as they should have been in a christian country. But now comes the question, is this ignorance to continue? Is one generation after another of this very large and increasing class to grow up acquiring worse habits than their parents, recruiting the ranks of crime, and becoming a pest to the town? Most assuredly not, for it is not only that there are so many hundred souls left in darkness in the midst of a Christian metropolis; this is a grave consideration—but these are the people who are the grist of our treadmills, and supply our workhouses with inmates; and, what is even worse, these are the people who, in times of disturbance, would be the first to band themselves against the authorities.

I believe that while such a mass of ignorance and depravity remains at our very doors, we are standing upon a mine which it requires only the igniting of a match to explode. Doubtless there must be costermongers, and doubtless a very useful class of people they are in their way, but I see no reason why they should necessarily be heathen, and addicted to all kinds of heathen profligacy. I do not see why it is necessary, in order to circulate greens and fish through the arteries of London, that a whole class should exist who are for the most part in various degrees of proficiency—thieves and smashers, and characters of the worst description—and I do think that some steps should be taken in their behalf, that some measures should be adopted in order to tame them. That at all events opportunities should be afforded them of becoming to a certain extent civilized, to feel that they are accountable beings, with souls to be saved or to be damned.

And I have hopes even for my costermongers. I speak of my costermongers, because I do not know what others are about; but I can speak for my own, and I believe that there is a desire growing up among them for improvement—an earnest of better things to come. In the first place, there seems to be a greater anxiety about the education of their children. I will not insist upon the case of the father whose boy had been detected in stealing, and who brought him to the schoolmaster to be punished, but who afterwards told me that he had given him a better lesson than the schoolmaster, for he had taken him to see Marley hung that morning—but there really does seem a desire on the part of these people that their children should attend the schools. As probably the greater part of my audience are aware I have lately opened large schools, especially for this class, but for the last year and more we have gathered some of the children in a vacant room in the old schools, and the attendance has been most satisfactory; out of 80 boys attending this school, 50 were in a position to claim the government capitation money, on the ground of having attended 176 days and upwards, and I feel little doubt that when we begin operations on a large scale in the new schools, they will be equally well attended. And so with the adults; for the last two years we have

opened a room three times a week for religious instruction, and these meetings are attended by at least 150 women and 80 men, and I have no doubt that when these meetings are transferred, as we intend to transfer them to the new schools, the attendance will be very much larger; indeed, our attendance has for some time far outgrown our original room. In order to add a little attraction to these meetings, and to foster a social and kindly feeling among the people, we have an occasional tea-party for the women, and supper party for the men. Upon the late occasion of the opening of the new schools by his Royal Highness Prince Albert, upwards of 150 women, regular attendants, sat down to tea and buns, and 90 men partook of bread and cheese with a *soupeon* of a pretty strong onion and a screw of tobacco at parting, to comfort their hearts before they went to bed, while the doors of the school were thrown open to the other denizens of our alley who were invited to witness the proceedings upon the French principle—*pour encourager les autres*.

I have thus, at the risk of wearying my audience, spoken of what we are doing in my own district, because I have thought that what has been done in one place may be accomplished in another, and in hopes that it may be some guide to others in the same kind of forlorn districts.

Suffer me, in conclusion, to dwell for one moment upon what I think ought and might be done to improve the educational condition of this class of people.

In the first place, we must have schools specially for them. The habits of the children are peculiar from the nature of their occupation, from the houses they live in, and from being constantly required to assist their parents, they are necessarily dirty and unfit to mingle with other children. Then they have to go early in the morning to the market, and are not in a condition to come to school at nine o'clock. Then again they are kept at home in the afternoon to prepare for the evening's sale. Thus they are unfitted for attendance and find it impossible to conform to the discipline of a school organised in the ordinary way. Then again the earnings of the parents are so precarious that they find it impossible to keep up their payments regularly, and thus they introduce bad habits into a school. No, you must have special schools for these children at the lowest rate of payment, opened at hours which will suit their convenience, and conducted by people whom they know, and in whom they have confidence. With regard to the indifference of the parents to their children's education, it may be got over by constantly visiting them and following them up, letting the parents and children see that there is some supervision maintained over them, and that they are cared for, not in fact allowing them to be indifferent. In order to accomplish this there should be a visitor attached to the school, whose sole business should consist in beating up the children, and if we may use the Scripture term, compelling them to come in. We must also bribe them to come in. One of the reasons for not sending them to the school is that they assist the family pot by their scanty earnings. Now, we might meet this by offering rewards of money in the nature of exhibitions to the most regular and deserving, and making it worth the parent's while to keep the child at school. In my costermonger's school I give pinafores, with a red band for the waist, to the most regular. This is cheap, and has been found to answer very well. It has a salutary effect not only upon those selected, but also upon the other children, who are anxious to attain the dignity of an elegant extract.

But it may be asked does not the ragged-school fulfil these requirements? I answer no. In the first place, the name of ragged is distasteful to the poor people, especially to those who have some spark of respectability still flickering in their natures. Then again, the ragged schools, for the most part, are not conducted by people whom they know, and to whom they are accustomed

to look up. The teachers, too, and managers, are constantly changing—altogether there is a looseness about them which fails to inspire confidence—doubtless, the ragged-schools have done a great deal of good, they have acted as useful pioneers in preparing the way for a better system, and gradually fitting the lowest classes to mingle on a level of equality with those immediately above them in their own station; but, I am sure that some more powerful and permanent agency is necessary, in order really to get hold of this kind of population, and when the object is to teach them the duties of life, as they ought to be taught.

Then, again, it is all very well to talk about these people going to church, but the fact is, they are neither bodily nor mentally fit to go to church. A man who lives in a crowded room full of children and dogs and pigeons, perhaps engaged all the week in a dirty trade, even if he were to take a warm bath every Saturday night, still his very Sunday best, if he has such a raiment, must get impregnated with the atmosphere he lives in, and he knows and feels that he is not fit to mingle with respectable people; so, even if he would wish to come, he is painfully conscious that church is no place for him, and that the more respectable shun him. I speak from experience, for during the last two or three years a much greater number of these people have attended my church of an evening, and certainly the attendance of pew holders and more respectable people has decreased. It does not matter in my case, because the whole of my parish is composed of this class, and there are very few respectable people in it, so that I am glad to welcome my parishioners, though at a loss of my pew rent, but it is very different in parishes where there is a mixture of clean and unclean. I very much suspect that if the costermongers of London as a body were to take it into their heads to go to church, the tables would soon be turned, and we should see them making a house to house visitation in Hanover-square and Belgravia, with tracts in addition to their lucifer matches, and oranges in their hands, inviting ladies and gentlemen to go to church. Then, again, a man with the scanty education and loose habits of a costermonger, is unable to sit through so long a service, being utterly ignorant of what is going on, and mentally incapable of following the thread of a discourse. We must have rooms for these people where they can be assembled for short prayers and familiar discourses, and among men with whom they are not ashamed to associate. I am quite sure a vast amount of good might be done in this way. Having experienced it in the week days, I am convinced it would answer if it could be adopted on the Sunday. At the same time I feel that it will be almost impossible to work much improvement in their habits while their dwellings remain what they are. The houses of these people in my district are of the most wretched description—houses they are not—mere kennels—and such as should long ago have been condemned by the District Surveyor, but which somehow or other are suffered to escape through the tender mercies of the Paving Board, with a little occasional external whitewashing at cholera time. This, I know, is a most difficult question, for these people are compelled by the nature of their business to live in courts, where there are open spaces and sheds to stow away their barrows and to stable their donkeys. The best method appears to be that lately adopted by the Society of which the noble lord in the chair is president, namely, buying up a whole court or street, and building suitable lodgings for these people, at the same time having regard to the improvements to the trade and habits of the natives.

Then, with regard to the gin palace. Many of these people I know resort to these places because they are warm, and beautifully illuminated and decorated. Here they seek a refuge from the wretchedness of home, and when they enter they see a nice comfortable-looking landlord and a smiling well-dressed landlady, fronted by a row of most inviting clean glasses, and backed by two

enormous vats, labelled "Old Tom and Mountain Dew." On the opposite side of the street is a most miserable looking dark, dingy house, called a coffee-shop. I am daily struck by the painful contrast which exists between Flynn's coffee-house and the brilliant Corner Pin in my own district. Now, why should we not make our coffee-shops more attractive, more like the Paris cafés. In that city all classes of people go to the cafés and take their coffee and pipe, together with their *petits verres*, and are content; and I really believe that if we made our coffee-shops more attractive, better lighted, and more highly decorated, and at the same time introduced into them more games, and healthy publications, &c., not omitting a cheerful landlord and an agreeable landlady, which are very essential elements, and not often found in a coffee-shop, the keepers of these establishments generally wearing the miserable and cheek-sunken aspect of teetotalers, I believe that even the lowest class might be attracted to them, and might be drawn away from Old Tom and Mountain Dew, to regale themselves with the decoction fresh with "the spicy gale which blows from Araby the blest." I do not advocate teetotalism, because I am sure all will have, whether they require it or not, some stimulant. Gentlemen who sit at home at ease drink their sherry and port with the greatest composure and satisfaction, but when they come to talk of a poor costermonger or cabman, who is exposed night and day to the most inclement weather, and engaged perhaps in a noxious trade, taking his glass of gin, they look horrified, talk about blue ruin and the misery brought upon the working classes by drink. I do not advocate teetotalism, nor would I deny the costermonger his *pousse café*, but I think that we might make the stimulant less prominent, and not as it were almost force it upon the poor man. I do not enter into the financial part of such an establishment. At first I have no doubt it would be a failure; but if funds were found to start it and keep it going for a time, it might eventually pay; but at all events it might be the instrument of much good, and would repay the loss to the philanthropist in that way, if not in a commercial point of view.

However, I am perhaps now getting a little visionary, so it is time to stop; and I shall conclude by thanking you for your kind attention this evening, at the same time expressing my most sincere regret that the circumstances in which I have been placed have not allowed me leisure to work up my matter more effectually, and to make the paper more interesting.

#### DISCUSSION.

MR. KEELING, (of the firm of Keeling and Hunt,) had to thank Mr. Mayhew for his introduction to the costermongers, from the circumstance of his having furnished him with some statistical information for his work on "London Labour and the London Poor," in reference to the particular trade in which he (Mr. Keeling) was engaged. This had induced him to take an interest in that class of persons, and he found that by kindness and sympathy their rugged nature was soon softened. He had encouraged a few to attend his sale-room, and had afforded them the assistance and protection ordinarily extended to more wealthy purchasers, and was glad to say his confidence had not been misplaced. He found they appreciated the good their children were deriving from the education given at the Ragged-schools, but the greatest difficulty they had to contend with was the placing them in life after attaining a certain age. They would gladly apprentice them, but they had not the means, and he (Mr. Keeling) thought that since labour was so constantly sought for by our colonies, if a number of boys and girls belonging to this class could be trained to mechanical, agricultural, and domestic pursuits, they might, by government assistance, emigrate, and be removed from that contamination at home which neutralized the moral influence exercised at schools, con-

financed as many of these families were, to one room for subsistence and existence. The greatest grievance the costermongers reported to him was, the interference of the police whilst pursuing their precarious calling. He (Mr. Keeling) had been in communication with the authorities on the subject, but the different police acts were imperative, alleging that obstructions caused crowds, and gave facilities for pocket-picking. London was not like many places on the Continent, where in open spaces allotted to petty dealers in fruit, flowers, and vegetables, they could pursue their trade without injury to the public, but in this metropolis every inch of ground was wanted, and he confessed he could not see how the difficulty was to be obviated, although it was one that constantly brought them into collision with the police, and the punishment necessarily resulting only served further to degrade them. The profit arising from the sale of their articles was greater than was generally imagined, but he feared much was squandered in vice and dissipation, and it was only by education—by attention to the improvement of their dwellings, so ably advocated on all occasions by the Noble Lord in the chair, and Mr. Rogers, that the position of this class could be ameliorated. Indeed, it would be eventually found that, under an apparently rude exterior, the costermonger had a mind capable of appreciating the advantages bestowed upon him.

Mr. FRANCIS BENNOCH expressed the deep interest with which he had listened to this paper. The question was itself a great social problem, requiring much care for its solution. The known kindness and consideration which the firm to which the last speaker belonged had shown to this class of people, deserved the thanks of the community. It was chiefly through the encouragement given by that firm, as he understood, that those costermongers, who had been accustomed to vend the native pippin, had been enabled to take up the more profitable trade of selling pine-apples and other articles of luxury. But he (Mr. Bennoch) would more particularly refer to a branch of the subject to which he had given some personal attention, in connection with the public improvements in London, which affected, to a very large extent, the dwellings of the poorer classes. When he heard of any great public improvement being contemplated—when he heard of hundreds of houses being levelled for the purpose of increasing the convenience of the public traffic—he could not be ignorant of the fact that the destruction of many habitations of the poor was involved, without any provision being made for replacing them. This was a question which excited the deepest sympathy in his mind, and was one which loudly demanded the serious attention of the legislature. When public improvements were carried through particular localities, some provision should be made for the reception of those people who were turned out of their houses, so as to enable them to live near their work. Instead of that being the case, they were driven to dwell miles away from the locality in which they laboured, and they frequently had to walk three or four miles to their work. A few days ago, passing through the neighbourhood of Smithfield, in company with Lord John Russell, he came upon the area of ground known as the Fleet-ditch, where some thousands of houses had been destroyed, and the ground was lying a perfect waste. What had become of the population of that district? They had been dispersed, but not destroyed. The inhabitants of the crowded streets and alleys, formerly existing in that district, must live somewhere. Some of them probably had removed to the neighbourhood of Mr. Rogers, and added to the already over-crowded state of that locality. He (Mr. Bennoch) was of opinion, that to promote mental enlightenment amidst such a condition of things as existed amongst the class under consideration, was almost adding insult to injury, because it would tend to produce a refinement of feeling which would more and more fill them with

disgust at a system which compelled them to be so crowded together—and whilst it would give them keen susceptibilities of all that was good in their nature it did not supply a provision for its development. He threw out these remarks in the presence of the noble lord in the chair, because his voice was all potent on the subject, inasmuch as perhaps no man in this country had devoted so much time and labour to the study of the condition of the poor of this metropolis. There was a great social problem to be solved—how could they provide habitations for the labouring poor. The centre of the City was considered one of the most healthy spots in London. Immediately beyond that was a circle containing a festering population, spreading disease, and beyond that again was another circle, where they had cleanliness and health. These circles were being widened day by day by the improvements going on in the centre. It was hopeless to attempt to create a healthy condition of morality whilst they left the social and physical condition of the people so degraded and so ill-provided for.

Mr. GEORGE WALLIS (of the Government School of Art, Birmingham,) said that there were two points upon which he desired to make a few remarks; upon one he would hope for information, whilst on the other he might possibly make a useful suggestion. It must be a matter of satisfaction to all interested in the great question of education, that the parents of the class, the peculiarities of whose social position Mr. Rogers had been describing, were so deeply interested in the education of their children. Unfortunately, there was this difficulty to contend with, that after the extent of school training which parents of this class were able to afford their children, they could not always secure such employment for them as would prevent them from falling back into the original position of the parents themselves. The second point to which he wished to allude, was that of providing some really effectual means of counteracting the attraction of the gin-palace and beer-shops, by an improvement in the character of the coffee-shops, as mentioned in the paper. The allusion Mr. Rogers had made to this point, brought to his (Mr. Wallis's) mind an experiment which an eminent glass manufacturer at Birmingham, (Mr. Follett Osler,) had some time ago described to him. No doubt every person present was aware that the process of glass manufacture was a very warm one, and consequently the workmen usually consumed a great quantity of beer. Now Mr. Osler had been constantly annoyed at that, and resolved to try the experiment of a substitute for this incessant "beering," so he adopted a plan by which, he supplied a really good cup of coffee to his workmen at a cheap rate. When this plan was so far matured as to be brought into operation, there was, as a matter of course, some opposition on the part of the confirmed beer-drinkers, but as the experiment progressed the workmen found that the coffee they got at the works was so superior to that which they got in their own houses, that they performed breakfasting there, and ultimately the coffee took the place of the beer as the working beverage. Now, it appeared to him, that if this change could be effected without compulsion amongst workmen engaged in a manufacture proverbial for consumption of beer, the value of Mr. Rogers's suggestion for the improvement of coffee-shops could not be over-rated. The coffee ordinarily supplied in these places was of the worst description, and could any one wonder that the costermongers went to the gin palace and beer shop. It was to hoped, therefore, that some attempt would be made to provide them with their beverage in a wholesome and palatable form, with such other attractions to the coffee-shop as would give it a chance of competing with the gin palace.

Mr. HILTON had been brought into contact with families of the class under consideration in crowded neighbourhoods. He considered it most important to encourage habits of thrift among men. He thought much good might be done by establishing savings banks,



headed by the names of men well known—not as financiers only, but also as philanthropists. He believed it would have a wonderful moral effect upon the class of costermongers generally.

Dr. ALDIS remarked that even in the district of Belgravia he had met with the description of dens, or kennels, described in the paper; families were herded together in the most pestilential atmosphere. In such places were to be found the lowest class of fish-dealers, who vended articles unfit for food, and highly dangerous to the public health.

Dr. WALLER LEWIS said there could be no doubt that it was useless to attempt to do anything for this class of people without first improving their dwellings. It was proved almost to demonstration that a little education without this was a mischief rather than a good. There was very great difficulty in providing dwellings fitted for these people. They all knew that the noble lord in the chair, who had spent so much of his time in thinking and acting upon this subject, some time ago placed a notice on the books of the House of Lords, to the effect that when any large number of dwellings of the poorer classes were swept away by the progress of improvement, the legislature should take some steps to provide dwellings in the place of those which were destroyed, but although it was acknowledged that this intention was—as were all the intentions of the noble lord in this direction—good, yet from the tenure of property and other reasons, which he would not go into, the measure was found impracticable. A great point of difficulty was to know where to erect these dwellings. Many had been erected by the Society for the Improvement of the Dwellings of the Labouring Classes, of which Lord Shaftesbury was chairman, and others had been erected by the Metropolitan Society, and those present who had visited the interior of those dwellings could not fail to be struck with their cleanly appearance and that of their inmates. The difficulty was to find places where to erect such habitations. He could point out one locality which he thought peculiarly available for such a purpose, that was in the neighbourhood of Victoria-street, Farringdon-street, where there was a large vacant space, and he had been told land might be had there at a moderate cost. With reference to counteracting the influence of the gin palace, and doubtless that was very much required, he had last autumn, in company with his lordship, visited an establishment in Paris, at which good unadulterated articles of food, &c., were supplied to the people at a moderate cost, and he was informed that many of the wine-shops and cafés in the neighbourhood were abandoned for this establishment which was sometimes visited by as many as 4,000 persons daily; in fact, it produced a good moral effect amongst the workmen of the whole quarter.

Mr. HARRY CHESTER would hardly have ventured to address the meeting on this very interesting paper were it not for an observation which fell from the gentleman who spoke last. He stated that a little education was an evil. He (Mr. Chester) contended that, although a little education was not so good as a great deal, yet that a little was better than none at all. If they looked at small beginnings in education as an evil, they could never hope for great results. They must insert the thin edge of the wedge and drive it home as far as possible. Much as he was interested in Mr. Rogers' paper, he could not help fearing that the amount of humour in it might lead them to lose sight of the deep, earnest purpose which the author had in view. He, (Mr. Chester), and many others present, knew very well how long and successfully Mr. Rogers had laboured for the improvement of the poor people amongst whom his lot was cast. It was his (Mr. Chester's) province to know the exertions which Mr. Rogers had made to improve the condition of these people, and to provide education for this peculiar class of the community, and he had not only done this, but had improved their condition in every respect. He

believed the remarks which were directed to this peculiar class were equally applicable to other portions of the labouring community, who had been driven to the lowest pitch of wretchedness. It was the misfortune of our present social condition, that while the higher classes in this country were in a better condition than in any other, the lower classes were more degraded. But after all what was the practical purpose to be gained by this paper? They were not to go away, having been merely amused by a humorous recital of the abject condition of a class of their fellow-creatures, but they were to ask what could they each do amend this state of things? and he felt that every suggestion thrown out—whether for improved coffee-houses or improved homes, had great value. The question of questions was—the improvement of the homes, and while on this subject he wished to call their attention to the important point of the law of parochial rating. He believed it was impossible to have suitable dwellings for the poor in the neighbourhoods where they worked so long as they maintained the present law of parochial rating. The noble chairman had brought these social questions, year after year, before both Houses of Parliament; and though he had gained many battles in the cause, still he had been often defeated. They must support the noble lord who was in the van of this movement, in order to bring about an amelioration of this horrible condition of things.

Mr. HENRY COLE, C.B., said there was one point worthy of mention, with respect to Mr. Rogers's schools for the costermongering class, which was, that in connection with these schools he had established some of the most flourishing schools of art that were to be found in any district. The great question, however, was the houses of the poor. He was one of those who thought that education began rather at home than in the school-room. It was a happy sign at the present day to find that all classes of the community were thinking how this great question could be met. The evil was not confined to London. In a country parish where he resided during the summer months, a most lovely spot, in the midst of rich resident landowners, he found a state of things existing last year which they would scarcely credit. In a wretched hovel, thirteen people lived in a space scarcely larger than the table at which he stood. Immediately at the back of that wretched den, the proprietor of the place kept no fewer than 40 pigs. He (Mr. Cole) remonstrated with some parochial functionary on the subject, and even took a legal opinion upon the matter, but he found there was no redress, and was told that if he pressed the matter further the people would be turned out and the pigs would be kept there. Should such a state of things be allowed to continue? In many of our large manufacturing towns the employers found it a matter of convenience, as well as, in some cases, of pecuniary profit, to erect at their own cost dwellings in which their own work-people might be concentrated; and they might also go to some of the agricultural districts and they would find such proprietors as the Duke of Richmond insisting that the labourers should have proper cottage accommodation. What they required was that a child should be placed in a condition to be healthy from its birth. Before they sent children to infant schools at three, or to the parochial schools at five or six, they must have cleanliness, which was next to godliness.

Mr. GLAISHER, F.R.S., gave some details relative to the wretched condition of dwellings which he had inspected in Plumpton-court, Holborn, which, he said, were worse than the cabins of Ireland.

Mr. NASH expressed his gratification at learning that some movement had been made upon the important question of the improvement of dwellings of the working classes, and for elevating their moral and social condition. He believed that success would attend the efforts that were now being made in this direction, and he considered that the exertions of Mr. Rogers were especially deserving support at the hands of those present.



The Rev. Dr. BOOTH, F.R.S., believed that it would be impossible to obtain improved dwellings for the poor, to any great extent, whilst the present law of parochial settlement remained in force. At present it was to the interest of parishes not to allow cottages to be built, and until that state of things was altered it was almost impossible that they could have dwellings commensurate with the wants of the poor; for, whilst the population increased, the number of dwellings remained the same. Under the present system of settlement it was a pecuniary advantage to parishes to keep down the building of cottages for the poor as much as possible, and he considered the poor were as much *adscripti glebæ* as in the days of William the Conqueror.

The Rev. James JACKSON agreed with Mr. Chester that it was their duty to do all in their power to assist Mr. Rogers in the work he had undertaken. He had made a most noble effort on behalf of a very degraded portion of the community, and he had been the means, not only of improving the condition of the children of that class, but also of the parents through the children. By the aid of government grants, and the donations of the charitable, he had raised large funds towards this object; but as these schools were mainly dependent upon voluntary contributions for support, much yet remained to be done in that direction. There was a good beginning on a large scale, but they must do all they could to assist Mr. Rogers in the noble efforts he had made.

The CHAIRMAN said it would have been more agreeable to himself to have closed the discussion without any observations of his own, but as the meeting had shown so much zeal in this cause, in which he had laboured for a considerable period of his life, he could not allow the subject to drop without offering one or two remarks. In the first place he would say that this was a subject with which the Society of Arts had done well to connect itself, because he was convinced that amongst the class of whom they were speaking there were as fine spirits, and as noble intelligences, which by due training could be brought to advance the interests of art and science, as could be found amongst the most wealthy and the best-born of this country. He would remark, in reply to the observations which fell from his friend Mr. Chester, that Mr. Rogers, in drawing up this paper, had given a very fair representation of the characteristics of the class he had been treating of. They were a people of a peculiar character, and it was impossible to be amongst them without being struck with the wonderful patience and good humour which generally distinguished them. With regard to the objection which had been taken by the author of the paper, to the term "ragged schools," he (Lord Shaftesbury) looked upon that title as the chief recommendation of those establishments. The children who came to those schools were of the most miserable class in the metropolis. They came in hungry, shivering, and almost naked, and he adhered with more than ordinary pertinacity to the epithet "ragged schools." It was meant to designate the special class of the community for which these schools were intended. This title also implied the nature of the duty of the superintendents and the teachers in them. The title "ragged school" denoted that the business of the superintendents and teachers was with the ragged children. It was their duty to take the children from the mire and the gutter, and the moment they quitted that they quitted the sphere of their duty. Another important consideration was to keep these schools for the especial benefit of the destitute and miserable classes. Mr. Rogers had said that the title was distasteful to the respectable portion of the community. That he (Lord Shaftesbury) considered was its greatest recommendation. Ragged schools were never intended for the children of those who could afford to pay for schooling. Again, his friend Mr. Rogers was in error when he stated that these schools failed to call forth the respect and the confidence of the children.

His lordship then proceeded to detail instances of affection for the teachers and local missionaries displayed by the inmates of the ragged schools, which had come under his own knowledge, and described the wretched state of ignorance and depravity in which they were found, having no idea of the meaning of "property," farther than that they considered it was their right to appropriate as much as they could to themselves. His lordship then went on to remark that, notwithstanding the wretched condition in which this class of people lived, it was astonishing to know what could be affected by the introduction amongst them of a system of thrift. Last year, there was deposited in the penny banks attached to the ragged schools, no less a sum than £2,000. With reference to the condition of the dwellings of the poor, his lordship proceeded to state his conviction that, without improvement in this respect, there could be no hope for their domestic education, so essential as a foundation for moral advancement. The great difficulty in the way of improving the dwellings of the poor in the metropolis and large cities was the great cost it involved. There was no longer any doubt as to the desire of the people to avail themselves of them; but he might remark that when the plan of improving the present dwellings, by making the streets and alleys clean, and properly ventilating the houses, was adopted, it had been found highly remunerative. He was of opinion that by taking whole courts and alleys, renovating, repairing, painting, ventilating, and making them, instead of *cul-de-sacs*, open spaces, free for air and light, ample returns for capital employed might be obtained. His lordship then adverted to the benefits of the Lodging Houses Act, and the importance of assisting to carry out its regulations. His lordship concluded by moving a vote of thanks to Mr. Rogers for his able paper.

A vote of thanks was passed to Mr. Rogers.

The Secretary announced that on Wednesday evening next, the 8th inst., there would be no MEETING of the Society, and that on Wednesday evening, the 15th inst., a Paper, by Mr. J. W. Papworth, on "Houses as they were, are, and ought to be," would be read.

## Home Correspondence.

### NATURE PRINTING.

SIR,—In reply to Mr. Bradbury's letter, allow me to state, that I made no claim to novelty in printing from the leaf by means of colours on paper. What I did claim was, printing from the leaf on lithographic stones or copper-plates, and so enabling the impressions to be multiplied at pleasure. Mr. Bradbury considers that, as by his process the impressions are as good as in the specimens of an herbarium, full success in nature printing is achieved. But these are necessarily extremely imperfect, and do not at all represent the natural objects, while I contend that my process preserves the impressions in their original succulence and fulness, and without the unnatural contractions of the withered specimens of a *Hortus siccus*.

I am, &c.,  
CHRISTOPHER DRESSER.

### THE ECONOMY OF FOOD.

SIR,—The interesting and prolonged discussion which followed the reading of the valuable paper of Dr. Letheby, prevented my offering some remarks on this important subject, which is too vast, as has been observed by one of the speakers, to be discussed even in a series of meetings. I shall not attempt, therefore, to enter into the fundamental principles of the question, but merely to

offer a few remarks relative to some points susceptible of controversy. Much has been said and written on what to eat and to drink, but very little about how to do it. I have heard several times from persons who have not lived on the Continent, that the English roast beef was more healthy than the French "mess," as our cooking is called by many. I was glad, therefore, to hear it scientifically explained and demonstrated, that a mixture of various articles was necessary to make a wholesome and nutritious food, in order to engender force and to supply the wants of the various organs composing the body. All has not been said, however, on the necessity of admixture. It is well known that the more component parts a substance contains, the more easy is the decomposition, and as the process of digestion has for ultimate result the decomposition of our food, the more this is of a compound nature, the more easily is it digested. But digestion is mechanical as well as chemical, and one of the first conditions is the division of the particles, and their being kept asunder in order to allow the gastric juice to act on every particle individually. The molecules of the same substance having an affinity for each other, they cohere together, thereby preventing the operation alluded to, but when substances of a different nature are introduced into the stomach, the churning or mechanical action of that organ causes the interposition of molecules of different substances, and promotes their chemical decomposition. It is not what we eat which supports the body; it is what we digest. My friend Dr. Kenan, an Irish gentleman, who came to London for the purpose of delivering lectures on physiology, used to say, "There are two kinds of people who die from starvation; those who have not enough to eat, and those who eat too much," and there are very few persons who have not had the opportunity of verifying on themselves the correctness of this remark, by noticing that they felt a great deal weaker from having taken too much of the most nutritious articles of diet. The only condiment alluded to in the paper was salt, and this again is in harmony with the English custom of preferring plain food. We cannot admit, however, that nature produces without design and utility a variety of condiments and spices which we know are not nutritious articles of food, but which are the inert matter destined to keep the particles of food in a state of division, and thereby to promote digestion, first mechanically, and, secondly, by their stimulant and antiseptic virtues. Raspail, the French reformer, says, in his work entitled, "*L'Histoire de la Santé et de la Maladie*," the art of cooking is the chemistry of the man in health—Pharmacopœia, the cookery of the man who is diseased. Plain food does not produce strength; it gives only bulk. This is the reason why in England you judge of the strength of a man by his weight, but the springing activity of a light Frenchman would defeat an English boxer, unless he was obliged, according to rules, to wait coolly the heavy blow of his antagonist. The same author, speaking of the *modus operandi* of digestion, says, "If you put together, either in an open or close vessel, at a temperature of 10 to 15 degrees centigrade, a mixture of sugar or saccharine and glutinous or albuminous substances, a fermentation takes place, the product of which is alcohol; if, when the whole saccharine substance has been transformed into alcohol, an extra quantity of gluten or albumen remains, its reaction on the alcohol transforms it into acetic acid, and thus when the alimentary matter, by the process of digestion, has arrived at a proper degree of acidity, suitable to the physiological condition of the organ, it is then propelled into the duodenum, where it mixes with the bile, and acquires the alkaline condition requisite to combine with the blood." I am aware that Raspail's opinion has been rejected by some authors, who will not admit that the physiological functions have any similarity with the chemical phenomena which take place out of the organism; for my part, I uphold Raspail's opinion, because chemical phenomena are the consequence of immutable natural laws, and the

same causes will produce the same effects either within or without the body. The above remarks will explain how, according to the constitution of the individual, he may secure a good digestion by finishing his meal either with a salad or an extra glass of wine.

I shall beg leave, also, to observe, that Dr. Letheby, in his description of the virtue of coffee is not consistent with his first premises; if there are some absolute conditions required in a substance destined to maintain and support the body, coffee must possess them or it cannot be nutritious. He says that it excites the brain on the one hand, while it calms the nervous system generally; this is not in accordance with the physiological data. He adds that Lechmann, who has inquired much into the physiological effects of that substance, "has ascertained by experiments, that coffee greatly diminishes the wear and tear of the system, it oils the machinery as it were, and checks the waste of friction; for those who use it find, that during active exercise, the destruction of tissue is prevented, and then there is less demand for food; in fact, and with a maximum of work to perform, and a minimum of food to accomplish it, he will best sustain his vital power who has resorted to a cup of coffee." Unluckily, the great authority as the lecturer calls him, is mistaken, otherwise we could live altogether on coffee, and it would certainly, says Lechmann, be a great saving to the poor classes. If I contradict the above statement, it is because it would induce many not only to use, but to abuse, the employment of coffee. It is my principle never to believe or to submit to any kind of authorities however high they may be, unless their opinions agree with the rules of common sense. Now, in opposition to the above statement of Dr. Letheby, I shall relate experiments made by Dr. A. Caron, *médecin des prisons de la Seine*, and inserted in *La Gazette Médico-chirurgicale*, de Paris, No. 11, March 14, 1846, entitled: *De l'alimentation par le café au lait, considérée comme cause pathogénique*. Speaking of the popular habit of breakfasting on coffee with milk, he says: I have devoted my attention to this subject, and I think I am justified in attributing to this kind of aliment the production of the nervous and leucorrhœic diseases which principally affect females of every class, particularly those inhabiting large towns. The very general coincidence of the same symptoms with the use of coffee and milk, induced me to examine what might be the cause of those phenomena, and then I was led to investigate what the action of coffee on milk is, and then the action of that mixture on the human economy. I was first obliged to make the analysis of the infusion of coffee, next to determine its physical and chemical properties; I was obliged besides, to submit my first essays to new experiments, which conducted me to a series of most interesting researches, which I now propose to describe.

The infusion of coffee is a liquor of a dark brown, possessing a particular aromatic taste, slightly bitter, the chemical analysis containing the following principles, viz., a colouring matter soluble in water, a volatile empyreumatic oil soluble in alcohol, which is developed by torrefaction, some tannic and gallic acid, some resin and an extract of caffeine. This liquor when warm and sweetened, constitutes a stimulating and pleasing beverage known by every one, but what no one has thought of, is, that when in contact with milk, its nutritious properties are neutralised, because of its fermentation being retarded. Having put together some coffee and milk in a bottle, it was 27 days before the mixture began to decompose, whilst milk and sugar were decomposed in three days; chocolate with milk was five days; pure caffeine and milk eleven days. It is evident that the astringent properties of coffee hinder the digestion of milk; but it happens also, that during the action of coffee on the principle of milk, the caffeine is set free and acts on the membrane of the stomach in the same manner as vegetable alkalies, producing the most evident hyposthenisation, a fact which till now has been overlooked. Then Dr. Caron continues

to relate the experiments he made on himself, and some other persons willing to submit to the trial, the results of which were general prostration, vital concentration, cephalalgia, weakness and trembling of the legs, tottering walk, nausea supervening with fulness of the stomach, constant somnolence, great want of appetite, he having remained since the morning till 11 o'clock at night without eating anything. But what is particularly worth noticing here, is the condition of the pulse, which, on the average, was from 80 to 90, and which, under these circumstances, was lowered to 68. At four o'clock in the afternoon it was reduced to 60, and two hours later to 56, when he took some food in order to stop the effect. While taking the meal he was subject from time to time to giddiness, flushing of the face, and nausea; after the meal the pulse rose to 72, when he felt much relieved. He continues farther on and says, a mixture of coffee and milk as I have stated above, having the property of hindering the fermentation when in vessels, acts identically in the same manner in the stomach, and constitutes an inert liquid, on which the gastric juice has little or no action at all. Dr. Caron continues the account of his experiments, mentioning cases he has treated, and proves ultimately that many patients labouring under nervous irritation, leucorrhœa and hysteria, were restored to health by simple tonic treatment after having given up the use of coffee. I must confess that in the first instance, when Dr. Caron communicated to me the above observations previously to reading his article, I had some difficulty in agreeing with him on the subject, and told him that from my own experience I thought coffee a great supporter of the animal economy, relating at the same time, that by taking for breakfast a cup of coffee and milk, I could go a whole day without taking anything else; this remark he rightly took as a proof of the truth of what he had advanced. The mistake made by Lechmann does not therefore surprise me, but I think it right to place the fact in its true light.

I am, &c.,

J. CAPLIN, M.D.

9, York-place, Portman-square.

## Proceedings of Institutions.

**CHELTEMHAM.**—There have been second courses of lectures, since Christmas, both at the Athenæum and the Literary and Philosophical Institution. At the latter, Dr. Whewell, the master of Trinity College, Cambridge, delivered a lecture, (on Friday, the 27th ult.,) upon *Plato*. The subject itself, and the celebrity of the lecturer, combined to attract a fuller and more educated audience than has been drawn together for many years past. It was not, however, a discourse upon the mental character and philosophy of Plato generally; but a popular illustration of his mode of teaching, in a masterly analysis of the dialogue on "True Courage," and a brief summary of some others. It is much to be regretted that the Institution is at present labouring under pecuniary difficulties. The attempt to support it as a reading-room has failed, and it is now proposed to confine it to the original objects of its founders,—as a Lecture-room, Museum, and Library of Reference.

**DARLINGTON.**—In the report of the Mechanics' Institution for the year 1856, presented to the annual general meeting, held on the 6th ult., the committee congratulate the members upon the very favourable aspect which the classes have presented during the past year, and are of opinion that the spirited and assiduous manner in which the various gratuitous teachers have fulfilled their self-imposed duties, deserves to be marked with the special approval of the meeting, and the grateful thanks of their pupils. The result of the lectures during the past session is encouraging. The following were delivered:—Six lectures "on the Commonwealth," by Mr. H. Vincent; two lectures "on Extinct Animals

of the Ancient World," by Mr. B. W. Hawkins; "The Life of Sydney Smith," by Rev. Brewin Grant; "Literary Beauties of the Bible," by Mr. Barnet Blake; "Moore's Ballads and Shakespeare's Songs," by Mr. Barker; six lectures "on the Protestant Reformation," by Mr. H. Vincent; "Life of John Calvin," by Mr. George Dawson; "Old Books; their uses, beauties, and peculiarities," by Mr. George Dawson; four lectures "on Natural History and the Extinct Animals of the Ancient World," by Mr. B. W. Hawkins; "Some of the Beauties of English Poetry," by Mr. John Harris; two lectures "on America," by Mr. Henry Pease; "Natural History in connection with the late Darlington Polytechnic Exhibition," by Mr. W. Fothergill. Through the liberality of Lord Ashburton, a gratuitous lecture was delivered in September last by the Rev. J. A. D. D'Orsey, on "Common Things." The Saturday evening entertainments have again been brought forward with success. The literary portion of the meetings has been zealously upheld, principally by gentlemen resident in the town, who have delivered short lectures and given select readings of high literary merit—prose, poetical and dramatic—from standard authors of ancient and modern times. The musical portions of the entertainments have been ably sustained by local talent, with occasional assistance from provincial towns. The aggregate attendance at these entertainments during the winter has amounted to nearly 11,000. A "Penny Savings Bank," in connection with the Institution, for the deposit of small sums, has been established. 185 volumes have, by presentation and purchase, been added to the library, and the total number of books belonging to the Institution is 2,429; the issue has been 11,890 against 10,737 of the previous year. The present number of members is 503, of whom 3 are life members, 61 news room, 121 yearly, and 318 half yearly and quarterly. The number entered on the books during the past year is 664. The following gentlemen are the officers for the year 1857: *President*—Henry Pease, Esq.; *Vice Presidents*—Mr. Thomas Watson, and Mr. Andrew Common; *Treasurer*—John Church Backhouse, Esq.; *Honorary Secretary*—Mr. George Brigham; *Committee*—Mr. W. T. Robinson, Mr. Thomas Swinburne, Mr. Wm. Mossom, Mr. E. P. Elgee, Mr. George Shaw, Mr. Nicholas Bragg, Mr. J. F. Clapham, Mr. F. Mewburn, Jun., Mr. R. Mountford, Mr. Edward Pease, Jun., Mr. Richard Winter, Mr. Wm. C. Parker, Mr. John Harrison, Mr. Wm. A. Snaith, Mr. Edward Hall, Mr. J. R. Breckon, Mr. Jonathan Dresser, Mr. Wm. Forster, (Bank), Mr. H. K. Spark, Mr. R. Pincher; *Auditors*—Messrs. G. Harker, R. Teasdale, and H. Dunn; *Scrutineers*—Messrs. T. L. Blyth, and H. F. Pease; *Librarian*—Mr. Charles Forster.

**LEWES.**—An Exhibition and *soirée* in connection with the Mechanics' Institution, were held on the evenings of Thursday and Friday, the 26th and 27th Feb., when an interesting and varied collection of works of art and other objects of interest was displayed. The walls were hung with some fine pictures by the old masters, as well as some scientific diagrams; and cases of specimens illustrating various branches of Natural History, occupied a portion of the space. A choice collection of antiquities was contributed by the Sussex Archaeological Society, as well as from other sources. Several tables were devoted to the illustration of various branches of physical science, and experiments in frictional and voltaic electricity, magnetism, and chemistry were shown during the evenings. Electric telegraphs were arranged at the ends of the hall, and their working was shown and explained. In the mechanical department, there were several interesting machines exhibited in actual operation, and the steam-engine was explained and illustrated by working models. The attendance on both evenings was very large.

**SALFORD.**—The Committee of the Salford Royal Museum Peel-park Institution have had their attention directed, for some time past, to the formation of an In-

dustrial Museum, that shall in a great measure relate to the manufactures of Manchester and its neighbourhood; with this view, they desire to procure a complete series of samples of the raw materials, and of those exhibiting the various changes in the process of manufacture, so as to form a collection fully illustrating the different branches of practical art and manufacture. The importance of such a collection, from whatever view it may be considered, especially in this district, is unquestionable; and the Committee feel satisfied, that the completion of an Industrial Museum, on a large and ample scale, would have a beneficial tendency and value to all classes, and possess special attractions to the strangers who may be expected to visit Manchester during the present year. The Committee have much pleasure in acknowledging the valuable contributions with which they have been already favoured by several eminent manufacturers of textile fabrics; these have been arranged, and have proved a source of instruction and gratification to a large number of persons who have visited the museum. In carrying out this important object, the notice of the Committee has been drawn to the extensive and valuable collection of samples of practical art, industrial products, and other objects displayed in the Inaugural Exhibition of the Manchester Mechanics' Institution; and they have been advised that, at its close, many of the contributors to that exhibition, if applied to, would be willing to transfer to the Museum, at Peel-park, such of the objects as are of a suitable and appropriate character, being assured that all such donations would be safely taken care of, for the permanent use and enjoyment of the present and future generations. The Committee do not deem it necessary, in every case, to specify the particular objects which they think it desirable to solicit, but respectfully leave the selection to the judgment and liberality of the contributors, feeling assured that they will be the most competent to select such samples as are necessary to illustrate each particular branch of practical art and manufacture. The Royal Museum and Library is established under the provisions of the "Public Libraries Act," which empowers the Town Council to levy a rate for its maintenance and support. All its property is vested in the Town Council of Salford, and it is open daily (except Sundays) to the public, free of charge. The library contains nearly 20,000 volumes, of which 6,000 (forming the lending department) are freely lent to be read at the homes of the borrowers. Within a period of seven years the aggregate issues of books have been 431,974 volumes. The reading-room has been used by 696,000 readers, and the extensive Museum has of itself attracted more than 20,000 visitors within the seven years. These numbers may appear somewhat large, but when it is considered that within the most popular public park in this great community, situate in a very picturesque locality, is to be found an Institution with so many attractive features—containing a large library, spacious and pleasant reading-room, a museum filled with statuary, pictures, and other works of fine art, a gallery of samples of practical art and manufacture, an exceedingly good collection of specimens of foreign and British natural history, antiquities, and general articles—all of which are entirely free, and to which, during the holiday season, thousands of persons are brought by railway from the neighbouring towns, they will not cause much surprise, but be regarded as a certain indication of the good which result from this wide diffusion of knowledge amongst the masses of the people. The numerous donations conclusively evince the warm interest taken by the public in the Institution, no less that 2,571 separate gifts having been made from time to time, and the sum of £10,000 subscribed towards the formation of the library and museum, for its enlargement, or for building purposes. The rapid growth of the Institution has been very great, and the necessity of providing for the increase of objects in the museum rendered it necessary, a few years back,

to make large alterations in the old building, and to erect the north wing, corridor, and staircase; subsequently, in June 1856, the south wing was commenced, and is nearly completed; it will open with an exhibition of paintings, the works of local artists. By this recent addition to the Museum, at a cost of nearly £3,500, the Committee have doubled the extent of space available for the purposes of the Industrial Museum, to complete which their exertions are now especially directed.

## To Correspondents.

ERRATUM.—Page 291, col. 2, line 18, for "undisturbed" read "undistorted."

## MEETINGS FOR THE ENSUING WEEK.

- MON. London Inst., 7. Rev. H. Christmas, "On the History and Antiquities of Heraldry; and on some other branches of British Archaeology."  
Chemical, 8.  
Entomological, 8.
- TUES. Civil Engineers, 8. Mr. F. R. Conder, "On the Laying of the Permanent Way of the Bordeaux and Bayonne Railway, across the Grandes Landes."  
Linnæan, 8. Prof. Owen, "On the Character and Subdivisions of the class *Mammalia*." Part II.  
Pathological, 8.
- WED. Literary Fund, 3.  
London Inst., 3. Mr. E. W. Brayley, "On Mineralogy and Crystallography."  
Archæological Association, 4. Anniversary.  
Geological, 8. Dr. H. Falconer, "On the series of Mastodon and Elephant occurring fossil in England."  
Graphic, 8.
- THURS. London Inst., 7. Rev. C. Boutell, "On the Monumental Memorials and Engraved Monumental Brasses of Great Britain."
- SAT. London Inst., 3. Prof. Robert Bentley, "On Systematic Botany, with especial reference to the natural systems of arrangement."  
Royal Botanic, 3½.  
Medical, 8.

## PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[From *Gazette*, March 27th, 1857.]

Dated 5th January, 1857.

38. Henry Alfred Jowett, Sawley, Derbyshire—Improvements in steam engines.  
Dated 20th January, 1857.
163. Alfred Vincent Newton, 66, Chancery-lane—An improvement in the manufacture of hosiery. (A communication.)  
Dated 18th February, 1857.
477. Thomas William Davenport, Ormond-street, Birmingham, and Samuel Cole, Wilton-street, Aston Manor—A new or improved method of manufacturing and ornamenting articles in papier maché and charcoal.  
Dated 20th February, 1857.
503. Isaac Aldebert, 57, Long-acre—An improved shackle for the springs of carriages.  
Dated 28th February, 1857.
594. Peter Armand le Comte de Fontainemoreau, 39, Rue de l'Echiquier, Paris—Improvements in finger and other rings. (A communication.)  
Dated 3rd March, 1857.
617. Giacomo Sileoni, Genoa—Obtaining starch from a plant called *arum maculatum* and *arum italicum*, and from all other roots and plants of the *arum* genus.  
Dated 4th March, 1857.
630. Rudolph Bodmer, 2, Thavies-inn—Improvements in apparatus for steering ships. (A communication.)
634. Thomas Wright Gardener Treeby, 1, Westbourne-terrace-villa—Improvements in sewers and gulleys, and outfall to sewers and gulleys, and of sewage.
636. William Edward Newton, 66, Chancery-lane—Certain improvements in machines for cutting standing crops. (A communication.)
638. James Stephens, 8, Northampton-road, Clerkenwell—Improvements in paint brushes, and in similar kinds of brushes.  
Dated 5th March, 1857.
640. William Frederick Taylor Bradshaw, 54, Thomas-street, Sheffield—Improvements in making palette and other like knives.
642. Jean Louis Frederic Bardin, Paris—A new mode of ornamentation.
644. William Holland, Birmingham—A new or improved manufacture of runner notches and top notches for umbrellas and parasols.

654. George Tomlinson Bousfield, Sussex-place, Loughborough-road, Brixton—Improvements in machinery for compressing clay and other materials applicable to the manufacture of bricks and other articles. (A communication.)  
*Dated 8th March, 1857.*
658. William Findlater and William Keetley, Birmingham—An improvement or improvements in carriages.
660. Georges Danré, Pierre Fortune Victor Mouillard, and Pierre Adrien Mercier, Paris—Improvements in carbonizing or distilling wood, peat, oil-cake, coal, and other substances for the production of gas for lighting, in carburetting or increasing the illuminating effect of and in compressing gas, also in the apparatuses employed for such purposes.
662. Richard Archibald Brooman, 166, Fleet-street—Improvements in furnaces and fire-places. (A communication.)  
*Dated 11th March, 1857.*
666. George Hawksley, Bromley, Middlesex—An improvement in constructing apparatus for heating and cooling air, steam, and other fluids.
668. William Urquhart, 481, New Oxford-street—A new mode of ornamenting household furniture.
670. Robert James Maryon, 40, Hooper-street, Westminster-road—Improvements in the construction of steam locomotive engines.
671. Patrick McGrade, 7, Upper Liffy-street, Dublin—Improved machinery or apparatus for propelling ships or boats.
672. Richard Archibald Brooman, 166, Fleet-street—An improved method of, and apparatus for, maintaining the water level in boilers. (A communication.)  
*Dated 9th March, 1857.*
677. Frederick Shand Hemming, Westminster—Improvements in the manufacture of railway chairs and sleepers.  
*Dated 11th March, 1857.*
703. George Mountford, Caledonian-terrace, Leeds—Improvements in machinery or apparatus for cutting or chopping loaf sugar, roots, and other substances.
705. Charles Emile Gajola, No. 2, Sheepcote-lane, Birmingham—Improvements in moderator lamps.
707. William Boden, Blackwall—Improved apparatus for flushing waterclosets and urinals.
709. William Hale, Swan-walk, Chelsea—An improvement in rolling iron and steel.  
*Dated 12th March, 1857.*
711. Joseph Jules Derriery, Paris—Improvements in machines for manufacturing lozenges, wafers, or pastilles of pasty materials.
713. John Avery, 32, Essex-street, Strand—An improved method of purifying schistous or bituminous oils. (A communication.)
715. George Travis, Mercaston, Derby—Improvements in apparatus used in the manufacture of cheese.
717. William Edward Newton, 66, Chancery-lane—Improved machinery for drawing and preparing silk, cotton, wool, flax, hemp, and other fibrous substances. (A communication.)  
*Dated 13th March, 1857.*
719. Thomas Horne, junr., Birmingham—A new or improved method of ornamenting metallic bedsteads and wash-hand stands.
721. Samuel Lawrence Taylor, Cotton-end, and Thomas Eaton Rolfe, Northill, Bedfordshire—Improvements in boilers for generating steam, heating water, and for other heating or boiling purposes.
723. William Westbrook Squires, Liverpool—Improvements in the means of letting on and drawing off water and other fluids.
725. Edmond Joseph Nicolas Juvin, Paris—Improvements in producing printing surfaces.  
*Dated 14th March, 1857.*
727. John Wheatman and John Smith, Sheffield—Improvements in the mode of grinding circular saws.
729. Henry Bridges, Bridgewater—Improvements in buffing, bearing, and draw springs, and buffer cases for railway purposes.
731. Martin Nunn, Hampstead—Certain improvements in machinery or apparatus for washing or cleansing clothes, piece-goods, and other articles.
733. Thomas Bowden, Pendleton, Lancashire—Improvements in apparatus for discharging the water resulting from the condensing of steam used in apparatus heated by steam.  
*Dated 16th March, 1857.*
737. Henry Glaysheer, Isle of Wight—Improvements in steam-engine boiler and other furnaces.
739. George Joseph Hall, 10 and 11, Archer-street, St. James—An improvement in finishing fabrics made wholly or partly of silk.
741. Richard Archibald Brooman, 166, Fleet-street—Improvements in zincing or coating metals with zinc, and in cleaning metals. (A communication.)  
*Dated 17th March, 1857.*
743. Nathaniel Jones Amies, Manchester—Certain improvements in machinery or apparatus for polishing and finishing yarns or threads.
745. Henry Boswell Palmer, Bermondsey—An improved fire lighter.
749. William Edward Newton, 66, Chancery-lane—Certain improvements in folding window blinds and shutters. (A communication.)
751. Modeste Anquetin, Paris—An improved traveller's watch.
753. William MacNaught, Rochdale—Certain improvements in engines worked by steam or other motive power, and in their gearing for connecting them with machinery, and in the means of lubricating such engines.
755. George Forsyth, Stakeford Foundry, Maxwelltown, N.B.—Improvements in steam cooking apparatus.  
*Dated 18th March, 1857.*
757. John Millar, Edinburgh—Improvements in stoppers or closing apparatus for decanters, bottles, and other receptacles.
759. Jacob Green, Philadelphia, U.S.—Improvements in gas consuming furnaces, and in the automatic action of the controlling valves or dampers of the said furnaces.
761. James Murdoch, Staple-inn—An improved process for imitating the skins of animals upon felled cloth. (A communication.)
763. John Wilkes, Thomas Wilkes, and Gilbert Wilkes, Birmingham—A new or improved manufacture of rollers or cylinders for printing fabrics.
765. Sir James Caleb Anderson, Bart., Fermoy, Cork, Ireland—Improvements in locomotive and other carriages.
767. Richard Johnson, Manchester—Improvements in cleaning iron and other metals, after the manner known as "pickling."

## WEEKLY LIST OF PATENTS SEALED.

March 27th.

2264. John Boyd.  
2266. William Smith and Nathaniel Fortescue Taylor.  
2270. John Rothwell.  
2274. Charles John Carr.  
2278. David Thom and George Aldcroft Phillips.  
2280. John Lord.  
2283. Charles William Ramié.  
2289. Duncan Bruce.  
2296. Henry Naylor and James Crabtree.  
2300. Charles Durand Gardissal.  
2344. William Wilkinson.  
2380. William Rennie, junr.  
2442. Robert Hanham Collyer, M.D.  
2456. Joseph Lacassagne and Rodolphe Thiers.  
2474. George Thomson.  
2660. Francis Cook Matthews.  
78. Robert Smith.  
98. George Fergusson Wilson.  
112. John Barsham.  
164. Frederick Grace Calvert.  
210. George Fergusson Wilson.  
212. George Fergusson Wilson.  
248. Thomas Cooke.  
276. Alexander Wright.  
304. Matthew Andrew Muir and James Mollwham.  
*March 31st.*  
2307. Joseph Renshaw.  
2308. Victor Renault.
2309. Daniel Desmond.  
2311. Robert Edmeston.  
2312. Charles Goodyear.  
2313. Michael Thomas Crofton.  
2335. Andrew Dunlop.  
2349. William Marriott and David Sugden.  
2369. Joseph Bennett Howell.  
2405. Thomas Allen.  
2425. Peter Armand le Comte de Fontainemoreau.  
2426. Peter Armand le Comte de Fontainemoreau.  
2427. William Dray.  
2437. Samuel Cunliffe Lister and William Tongue.  
2438. James Robert France.  
2440. William Palmer, junr.  
2487. John Christian Bremer.  
2495. Edwin Allan Athawes.  
2504. Louis Auguste Maugin.  
2523. Michel Dognin.  
2526. Adolphe Ernest Ragon.  
2579. John White.  
2581. Ebenezer Erskine Scott.  
2635. Jean Baptiste Edouard Victor Alaux.  
2650. William Clark.  
2799. John Musgrave, junr.  
2831. Joseph Latimer Clark.  
2893. William Hooper, Joseph Fry, and George Nasmith.  
3074. William Clark.  
31. Alexander Angus Croll.

## PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

March 23rd.

699. James Robertson.  
756. George Fergusson Wilson and William Walls.  
*March 24th.*  
694. Samuel Humphreys.  
709. James Alexander Manning.  
793. Simon O'Regan.
- March 26th.*  
733. Philip John Bassavant and John Cure.  
739. Archibald Douglas Brown.  
752. John Henry Johnson.  
819. William Rigby.  
*March 28th.*  
761. Richard Edward Hodges.  
785. Stephen Randoll Smith.

## WEEKLY LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

No. in the Register.	Date of Registration.	Title.	Proprietors' Name.	Address.
3960	March 25.	{ Improved Chimney-top for prevent- ing down draughts .....	Wm. Blair and Joseph Chappell...	Bolton, Lancashire.
3961	" 26.	The Westonian Tie .....	Foster, Porter, and Co .....	Wood-street, Cheapside.
3962	" 27.	{ The Registered Expanding Travel- ling Bag .....	Jacob Lyons and Sons .....	10 and 11, Wilton-street, Finsbury.
3963	" 28.	Safety Harness .....	James Taylor .....	Barnby Moor, Yorkshire.
3964	" 28.	Bowden's Transparent Disk Advertiser .....	Mark Bowden and Co .....	Bristol.
3965	" 30.	{ Sack Lifter and Weighing Machine combined .....	John Spencer .....	West Butterwick, Lincolnshire.